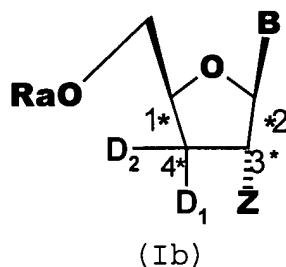


## CLAIMS

We claim:

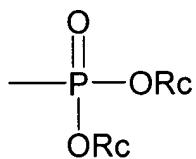
Sub 1. A method for the treatment or prevention of an hepatitis C infection in a host comprising administering a therapeutically effective amount of a compound having the formula Ib or a pharmaceutically acceptable salt thereof:



10 wherein

**B** is chosen from a purine, a pyrimidine or an analogue thereof;

**Ra** is chosen from H, monophosphate, diphosphate, triphosphate, carbonyl substituted with a C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl, C<sub>6-10</sub> aryl, and



wherein each **Rc** are independently chosen from H, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl, C<sub>6-10</sub> aryl and an hydroxy protecting group; and

**Z** is **ORb**, wherein **Rb** is chosen from of H, C<sub>1-6</sub> alkyl, C<sub>2-6</sub> alkenyl, C<sub>2-6</sub> alkynyl, C<sub>1-6</sub> acyl, or an hydroxy protecting group

**D<sub>1</sub>** and **D<sub>2</sub>** are independently selected from N<sub>3</sub>, F, or H, **D<sub>1</sub>** and **D<sub>2</sub>** can also be joined to be chosen from C<sub>3</sub>-cycloalkyl, =CH<sub>2</sub>, or =CF<sub>2</sub>;

with the proviso that when **B** is adenine, **Z** is **ORb**, **D<sub>1</sub>** is H, **D<sub>2</sub>** is H and **Rb** is H, **Ra** is not triphosphate or H.

2. A method according to claim 1 wherein **Z** is OH.

3. A method according to claim 2 wherein **D<sub>1</sub>** is H and **D<sub>2</sub>** is F.

4. A method according to claim 2 wherein **Ra** is chosen from H, monophosphate, diphosphate, triphosphate.

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5. A method according to claim 2 wherein **Ra** is triphosphate.

6. A method according to claim 2 wherein **Ra** is H.

7. A method according to claim 3 wherein **Ra** is chosen from H, monophosphate, diphosphate, triphosphate.

8. A method according to claim 3 wherein **Ra** is triphosphate.

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9. A method according to claim 3 wherein **Ra** is H.

10. A method according to claim 2 wherein **B** is chosen from adenin-9-yl, guanin-9-yl, inosin-9-yl, 2-amino-purin-9-yl, 2-amino-6-chloro-purin-9-yl, 2-6-diamino-purin-9-yl, thymine-1-yl, cytosine-1-yl, uracil-1-yl, 3-carboxamido-1,2,4-triazol-1-yl, 3-deaza-adenin-9-yl, 3-deaza-guanin-9-yl, 3-deaza-inosin-9-yl, 3-deaza-2-amino-purin-9-yl, 3-deaza-2-amino-6-chloro-purin-9-yl, 3-deaza-2-6-diamino-purin-9-yl, 7-deaza-adenin-9-yl, 7-deaza-guanin-9-yl, 7-deaza-inosin-9-yl, 7-deaza-2-amino-purin-9-yl, 7-deaza-2-amino-6-chloro-purin-9-yl, 7-deaza-2-6-diamino-purin-9-yl, 7-deaza-8-aza-adenin-9-yl, 7-deaza-8-aza-guanin-9-yl, 7-deaza-8-aza-inosin-9-yl, 7-deaza-8-aza-2-amino-purin-9-

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yl, 7-deaza-8-aza-2-amino-6-chloro-purin-9-yl, 7-deaza-8-aza-2-6-diamino-purin-9-yl, 8-aza-adenin-9-yl, 8-aza-guanin-9-yl, 8-aza-inosin-9-yl, 8-aza-2-amino-purin-9-yl, 8-aza-2-amino-6-chloro-purin-9-yl, 8-aza-2-6-diamino-purin-9-yl, 5-aza-thymin-1-yl, 5-aza-cytosin-1-yl, 5-aza-uracil-1-yl, 6-aza-thymin-1-yl, 6-aza-cytosin-1-yl, 6-aza-uracil-1-yl; each of which is unsubstituted or substituted by at least one of  $\text{NHR}_3$ ,  $\text{C}_{1-6}\text{alkyl}$ ,  $-\text{OC}_{1-6}\text{alkyl}$ , Br, Cl, F, I or OH, wherein  $\text{R}_3$  is H,  $\text{C}_{1-6}\text{alkyl}$  or  $\text{C}_{1-6}\text{acyl}$ .

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11. A method according to claim 3 wherein **B** is chosen from adenin-9-yl, guanin-9-yl, inosin-9-yl, 2-amino-purin-9-yl, 2-amino-6-chloro-purin-9-yl, 2-6-diamino-purin-9-yl, thymin-1-yl, cytosin-1-yl, uracil-1-yl, 3-carboxamido-1,2,4-triazol-1-yl, 3-deaza-adenin-9-yl, 3-deaza-guanin-9-yl, 3-deaza-inosin-9-yl, 3-deaza-2-amino-purin-9-yl, 3-deaza-2-amino-6-chloro-purin-9-yl, 3-deaza-2-6-diamino-purin-9-yl, 7-deaza-adenin-9-yl, 7-deaza-guanin-9-yl, 7-deaza-inosin-9-yl, 7-deaza-2-amino-purin-9-yl, 7-deaza-2-amino-6-chloro-purin-9-yl, 7-deaza-2-6-diamino-purin-9-yl, 7-deaza-8-aza-adenin-9-yl, 7-deaza-8-aza-guanin-9-yl, 7-deaza-8-aza-inosin-9-yl, 7-deaza-8-aza-2-amino-purin-9-yl, 7-deaza-8-aza-2-amino-6-chloro-purin-9-yl, 7-deaza-8-aza-2-6-diamino-purin-9-yl, 8-aza-adenin-9-yl, 8-aza-guanin-9-yl, 8-aza-inosin-9-yl, 8-aza-2-amino-purin-9-yl, 8-aza-2-amino-6-chloro-purin-9-yl, 8-aza-2-6-diamino-purin-9-yl, 5-aza-thymin-1-yl, 5-aza-cytosin-1-yl, 5-aza-uracil-1-yl, 6-aza-thymin-1-yl, 6-aza-cytosin-1-yl, 6-aza-uracil-1-yl; each of which is unsubstituted or substituted by at least one of  $\text{NHR}_3$ ,  $\text{C}_{1-6}\text{alkyl}$ ,  $-\text{OC}_{1-6}\text{alkyl}$ , Br, Cl, F, I or OH, wherein  $\text{R}_3$  is H,  $\text{C}_{1-6}\text{alkyl}$  or  $\text{C}_{1-6}\text{acyl}$ .

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12. A method according to claim 2 wherein **B** is chosen from adenin-9-yl, guanin-9-yl, inosin-9-yl, 2-amino-purin-9-yl, 2-amino-6-chloro-purin-9-yl, 2-6-diamino-purin-9-yl, thymine-1-yl, cytosin-1-yl, 5-fluoro-cytosin-1-yl, uracil-1-yl, 5-fluorouracil or 1,2,4-triazole-3-carboxamide base (ribarivin base).

13. A method according to claim 3 wherein **B** is chosen from adenin-9-yl, guanin-9-yl, inosin-9-yl, 2-amino-purin-9-yl, 2-amino-6-chloro-purin-9-yl, 2-6-diamino-purin-9-yl, thymine-1-yl, cytosin-1-yl, 5-fluoro-cytosin-1-yl, uracil-1-yl, 5-fluorouracil or 1,2,4-triazole-3-carboxamide base (ribarivin base).

14. A method according to claim 1 wherein the compound of formula I is chosen from:

**Compound #1:** 3'-deoxycytidine;

**Compound #2:** 3'-deoxycytidine-5'triphosphate;

**Compound #3:** 5-Fluoro-3'-deoxycytidine;

**Compound #4:** 5-Fluoro-3'-deoxycytidine-5'triphosphate;

**Compound #5:** 3'-deoxyuridine;

**Compound #6:** 3'-deoxyuridine-5'triphosphate;

**Compound #7:** 5-Fluoro-3'-deoxyuridine;

**Compound #8:** 5-Fluoro-3'-deoxyuridine-5'triphosphate;

**Compound #9:** 3'-deoxythymidine;

**Compound #10:** 3'-deoxythymidine-5'triphosphate;

**Compound #11:** 3'-deoxyguanosine;

**Compound #12:** 3'-deoxyguanosine-5'triphosphate;

**Compound #13:** 2-N-acetyl-3'-deoxyguanosine;

**Compound #14:** 2-N-acetyl-3'-deoxyguanosine-5'triphosphate;

- Compound #15: 5-Methyl-3'-deoxycytidine;  
Compound #16: 5-Methyl-3'-deoxycytidine-5' triphosphate;  
Compound #17: 5-Iodo-3'-deoxycytidine;  
Compound #18: 5-Iodo-3'-deoxycytidine-5' triphosphate;  
Compound #19: 5-Chloro-3'-deoxycytidine;  
Compound #20: 5-Chloro-3'-deoxycytidine-5' triphosphate;  
Compound #21: 3'-fluoro-3'-deoxyguanosine;  
Compound #22: 3'-fluoro-3'-deoxyguanosine -5' triphosphate;  
Compound #23: 3'-fluoro 3'-deoxycytidine;  
10 Compound #24: 3'-fluoro 3'-deoxycytidine-5' triphosphate;  
Compound #25: 5-Iodo-3'-deoxycytidine;  
Compound #26: 5-Iodo-3'-deoxycytidine-5' triphosphate;  
Compound #27: 5-Chloro -3'-deoxyuridine;  
Compound #28: 5-Chloro -3'-deoxyuridine-5' triphosphate;  
Compound #29: 5-Bromo -3'-deoxyuridine;  
Compound #30: 5-Bromo -3'-deoxyuridine-5' triphosphate;  
Compound #31: 6-Chloro-3'-deoxyguanosine;  
Compound #32: 6-Chloro -3'-deoxyguanosine -5' triphosphate;  
Compound #33: 3'-spirocyclopropyl-3'-deoxyguanosine;  
20 Compound #34: 3'-spirocyclopropyl-3'-deoxyguanosine -  
5' triphosphate;  
Compound #35: 3'-difluoro-spirocyclopropyl-3'-deoxyguanosine;  
Compound #36: 3'-difluoro-spirocyclopropyl-3'-deoxyguanosine  
-5' triphosphate;  
Compound #37: 3'-methylene-3'-deoxyguanosine;  
Compound #38: 3'-methylene-3'-deoxyguanosine -5' triphosphate;  
Compound #39: 3'-difluoromethylene 3'-deoxyguanosine;  
Compound #40: 3'-difluoromethylene 3'-deoxyguanosine -  
5' triphosphate;  
30 Compound #41: 3'-spirocyclopropyl-3'-deoxycytidine;  
Compound #42: 3'-spirocyclopropyl-3'- deoxycytidine -  
5' triphosphate;

**Compound #43:** 3'-difluoro-spirocyclopropyl-3'- deoxycytidine;  
**Compound #44:** 3'- difluoro-spirocyclopropyl-3'- deoxycytidine  
-5'triphosphate;  
**Compound #45:** 3'-methylene-3'- deoxycytidine;  
**Compound #46:** 3'-methylene-3'- deoxycytidine -5'triphosphate;  
**Compound #47:** 3'-difluoromethylene 3'- deoxycytidine;  
**Compound #48:** 3'-difluoromethylene 3'- deoxycytidine -  
5'triphosphate;  
**Compound #49:** 9-β-D-xylofuranosyl-guanosine;  
10 **Compound #50:** 9-β-D-xylofuranosyl-guanosine -5'triphosphate;  
**Compound #51:** 9-β-D-xylofuranosyl-cytidine;  
**Compound #52:** 9-β-D-xylofuranosyl-cytidine -5'triphosphate;  
**Compound #53:** 3'-azido-3'- deoxycytidine;  
**Compound #54:** 3'-azido-3'- deoxycytidine 5'triphosphate; or a  
pharmaceutically acceptable salt thereof.

15. The method according to claim 1 wherein said compound  
is used in combination with at least one further  
therapeutic agent chosen from interferon (IFN),  
20 interferon α-2a, interferon α-2b, consensus interferon  
(CIFN), ribavirin, amantadine, rimantadine, interleukine-  
12, ursodeoxycholic acid (UDCA), glycyrrhizin and silybum  
marianum.

16. The method according to claim 2 wherein said compound  
is used in combination with at least one further  
therapeutic agent chosen from interferon (IFN),  
interferon α-2a, interferon α-2b, consensus interferon  
(CIFN), ribavirin, amantadine, rimantadine, interleukine-  
30 12, ursodeoxycholic acid (UDCA), glycyrrhizin and silybum  
marianum.

17. The method according to claim 3 wherein said compound is used in combination with at least one further therapeutic agent chosen from interferon (IFN), interferon  $\alpha$ -2a, interferon  $\alpha$ -2b, consensus interferon (CIFN), ribavirin, amantadine, rimantadine, interleukine-12, ursodeoxycholic acid (UDCA), glycyrrhizin and silybum marianum.

10 18. The method according to claim 14 wherein said compound is used in combination with at least one further therapeutic agent chosen from interferon (IFN), interferon  $\alpha$ -2a, interferon  $\alpha$ -2b, consensus interferon (CIFN), ribavirin, amantadine, rimantadine, interleukine-12, ursodeoxycholic acid (UDCA), glycyrrhizin and silybum marianum.

add  
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